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EXAMINER

KAO, WEI PO ERIC

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,763	Applicant(s) BICHOT ET AL.	
	Examiner WEI-PO KAO	Art Unit 2464	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-14, 18, 20 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-13, 14, 18, 20 and 22-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendments

1. The examiner has acknowledged the amendment made to the Specification and Claims.

Response to Arguments

2. Applicant's arguments with respect to claims 12-13, 14, 18, 20 and 22-26 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejection - 35 USC § 103

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 12, 13, 14, 18, 20, 22, 23, 24, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cervello et al, U.S. Publication No. 2002/0071448 (hereinafter Cervello) in view of White et al, U.S. Application No. 60/387434 (hereinafter White).

Regarding Claim 12, Cervello teaches that **a method for reducing contention conflicts in a wireless infrastructure basic service set network** (see Abstract, Figures 3-5, Paragraphs [0018] [0020-0026] e.g. figure 4, [0018] [0023-0024]; the wireless network of figure 4 illustrates overlapping BSSs), **the method comprising: coordinating by an access point** (see Figure 4 and 5 e.g. an access point, AP) **a contention-free communication by the access point** (see Figure 3, Paragraph [0017] e.g. a CFP-contention free period starts by a beacon frame and finishes with a CF-End frame, both transmitted by the AP; during the CFP, there is no competition for the medium) **by computing a time duration** (see Figures 3 and 5, Paragraphs [0017] [0037-0038] e.g. [0037-0038] show the calculations of Durations/ID fields of the RTS-request to send and CTS-clear to send) **and communicating the time duration** (see Figures 3 and 5, Paragraphs [0037-0038] e.g. the Duration/ID field in the RTS and CTS frame) **to a plurality of wireless stations in the infrastructure basic service set network** (see Figure 4, Paragraphs [0018] [0036-0038] e.g. paragraphs [0018] and [0036] teaches that the RTS/CTS frames, which includes the Duration/ID field are exchanged between the APs and STAs; for example, when an AP sends a RTS frame, all the STAs within the range can hear/receive the RTS frame), **such that a communication stream to the plurality of wireless stations is uninterrupted for the time duration** (see Figures 3 and 5, Paragraphs [0014] [0018] [0039] [0042] e.g. RTS/CTS frames make sure that no other network nodes are to transmit during the time duration included in the

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Duration/ID field; for example, nodes other than the intended receiving node of a RTS, do not transmit at least for the duration indicated in RTS frame), **wherein the time duration information is used to control a counter** (see Paragraphs [0014] [0034] [0039] [0042] e.g. both NAV-network allocation vector and ONAV-overlapping network allocation vector are updated with the received Duration/ID values in either RTS/CTS frames) **in a wireless station to prevent the wireless station from attempting to transmit for a predetermined period of time** (see Paragraphs [0039] [0041-0042] i.e. when the STA has non-zero ONAV, the AP will then automatically defer the polling to the future; in another word, the counter ONAV prevents the STA from attempting to transmit for at least the time period that takes the AP to poll the STA again). However, Cervello does not teach that **the time duration is for a plurality of multicast frames, such that the communication stream of the plurality of multicast frames is uninterrupted**. White from the same field of endeavor teaches that **the time duration is for a plurality of multicast frames** (see Abstract, Figure 3, Paragraphs [0008] [0019-0022] [0026-0027] i.e. the paragraphs, specifically paragraph [0022], suggests that a multicast-broadcast message is sent after RTS/CTS exchange between an AP and a plurality of STAs), **such that the communication stream of the plurality of multicast frames is uninterrupted** (by combining White's multicast-broadcast message transmitting mechanism with Cervello's collision avoidance mechanism, it yields that an AP (as in Cervello's figure 4) is able to transmit multicast message (as in Cervello's figure 5 element (Data+) CF-Poll) to a plurality of STAs during the time duration (as in Cervello's figure 5 element Dur1) as an result). At the time of the invention, it would have been obvious to a person ordinary skill in the art to incorporate multicast-broadcast message transmitting mechanism with Cervello's collision avoidance mechanism. The

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motivation would have been that it is desired to be able to acknowledging receipt of a multicast message from each recipient, while at the same time avoiding unnecessary use of valuable bandwidth resources (see White, [0005-0007]).

Regarding Claim 13, Cervello teaches that **a method for reducing contention conflicts in a wireless infrastructure basic service set network between a mobile terminal and an access point** (see Abstract, Figures 3-5, Paragraphs [0018] [0020-0026] e.g. figure 4, [0018] [0023-0024]; the wireless network of figure 4 illustrates overlapping BSSs), **the method comprising: receiving, by the mobile terminal in the infrastructure basic service set network** (see Figure 3, Paragraph [0017] e.g. a CFP-contention free period starts by a beacon frame and finishes with a CF-End frame, both transmitted by the AP; during the CFP, there is no competition for the medium), **a computed duration** (see Figures 3 and 5, Paragraphs [0017] [0037-0038] e.g. [0037-0038] show the calculations of Durations/ID fields of the RTS-request to send and CTS-clear to send), **the time duration being a period of time necessary for uninterrupted transmission of frames** (see Figures 3 and 5, Paragraphs [0014] [0018] [0039] [0042] e.g. RTS/CTS frames make sure that no other network nodes are to transmit during the time duration included in the Duration/ID field; for example, nodes other than the intended receiving node of a RTS, do not transmit at least for the duration indicated in RTS frame); **controlling a counter in response to the computed time duration** (see Paragraphs [0014] [0034] [0039] [0042] e.g. both NAV-network allocation vector and ONAV-overlapping network allocation vector are updated with the received Duration/ID values in either RTS/CTS frames), **and receiving the transmission of frames uninterrupted for the computed time duration in response to the**

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state of the counter (see Figures 3 and 5, Paragraphs [0014] [0034] [0036-0043] e.g. figure 5 element (Data+) CF-Poll; the (Data+) CF-Poll is sent during the uninterrupted Dur1). However, Cervello does not teach that **the frames are a plurality of multicast frames**. White from the same field of endeavor teaches that **the frames are a plurality of multicast frames** (see Abstract, Figure 3, Paragraphs [0008] [0019-0022] [0026-0027] i.e. the paragraphs, specifically paragraph [0022], suggests that a multicast-broadcast message is sent after RTS/CTS exchange between an AP and a plurality of STAs; by combining White's multicast-broadcast message transmitting mechanism with Cervello's collision avoidance mechanism, it yields that an AP (as in Cervello's figure 4) is able to transmit multicast message (as in Cervello's figure 5 element (Data+) CF-Poll) to a plurality of STAs during the time duration (as in Cervello's figure 5 element Dur1) as an result). At the time of the invention, it would have been obvious to a person ordinary skill in the art to incorporate multicast-broadcast message transmitting mechanism with Cervello's collision avoidance mechanism. The motivation would have been that it is desired to be able to acknowledging receipt of a multicast message from each recipient, while at the same time avoiding unnecessary use of valuable bandwidth resources (see White, [0005-0007]).

Regarding Claim 14, Cervello further teaches that **the method, wherein the communicating step further comprises embedding and transmitting the time duration in a header of a data packet** (see [0037]).

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Regarding Claim 18, Cervello teaches that **An access point in a wireless infrastructure basic service set network** (see Abstract, Figures 3-5, Paragraphs [0018] [0020-0026] e.g. figure 4, [0018] [0023-0024]; the wireless network of figure 4 illustrates overlapping BSSs containing different APs), **the access point comprising: means for computing a time duration** (see Figures 3 and 5, Paragraphs [0017] [0037-0038] e.g. [0037-0038] show the calculations of Durations/ID fields of the RTS-request to send and CTS-clear to send) **for transmission of frames** (see Figure 5 Element (Data+) CF-Poll e.g. the (Data+) CF-Poll is sent during the Dur1); **means for transmitting the time duration to counters in a plurality of devices associated with the wireless network** (see Figure 4, Paragraphs [0014] [0018] [0034] [0036-0038] e.g. paragraphs [0018] and [0036] teaches that the RTS/CTS frames, which includes the Duration/ID field are exchanged between the APs and STAs; for example, when an AP sends a RTS frame, all the STAs within the range can hear/receive the RTS frame; the STAs, which receives the RTS frame, update their NAV/ONAV), **via digital packets embedded in a transmission stream** (see [0037] e.g. the RTS frame); **wherein the access point retains control of a medium by fixing a duration field and whereby the access point can adjust the duration field to release the medium** (see Figures 3 and 5, [0017] [0036-0038] [0042] i.e. figures 3 and 5 suggests that the AP release the medium after CF-end is sent; equation of the [0037] suggests that the duration is adjustable). However, Cervello does not teach that **the frames are a plurality of multicast frames**. White from the same field of endeavor teaches that **the frames are a plurality of multicast frames** (see Abstract, Figure 3, Paragraphs [0008] [0019-0022] [0026-0027] i.e. the paragraphs, specifically paragraph [0022], suggests that a multicast-broadcast message is sent after RTS/CTS exchange between an AP and a plurality of STAs; by combining White's

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multicast-broadcast message transmitting mechanism with Cervello's collision avoidance mechanism, it yields that an AP (as in Cervello's figure 4) is able to transmit multicast message (as in Cervello's figure 5 element (Data+) CF-Poll) to a plurality of STAs during the time duration (as in Cervello's figure 5 element Dur1) as an result). At the time of the invention, it would have been obvious to a person ordinary skill in the art to incorporate multicast-broadcast message transmitting mechanism with Cervello's collision avoidance mechanism. The motivation would have been that it is desired to be able to acknowledging receipt of a multicast message from each recipient, while at the same time avoiding unnecessary use of valuable bandwidth resources (see White, [0005-0007]).

Regarding Claim 20, Cervello further teaches that **the access point, wherein the access point permits bandwidth provisioning in order to provide quality of service for streaming service** (see Figure 6, [0013] [0019] [0043-0047]).

Regarding Claim 22, Cervello teaches **the method, wherein said coordinating step further comprises: coordinating in a first cell a contention-free session, each said contention-free session including multiple transmissions with other member stations in the first cell** (see Figure 3, Paragraph [0017] [0036-0043] e.g. the CFP). However, Cervello does not teach that **said time duration being such that a plurality of multicast frames are delivered in a single communication stream for each multicast frame transmission stream eliminating the requirement for contending for a communication medium for each multicast frame**

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transmission (see [0022] i.e. the multicast-broadcast message is transmitted to multiple STAs at once). At the time of the invention, it would have been obvious to a person ordinary skill in the art to incorporate multicast-broadcast message transmitting mechanism with Cervello's collision avoidance mechanism. The motivation would have been that it is desired to be able to acknowledging receipt of a multicast message from each recipient, while at the same time avoiding unnecessary use of valuable bandwidth resources (see White, [0005-0007]).

Regarding Claim 23, Cervello teaches that **a mobile terminal** (see Abstract, Figures 3-5, Paragraphs [0002] [0020-0026] e.g. a STA) **comprising: a counter** (see Paragraph [0034]); **means to receive a computed duration** (see Figures 3 and 5, Paragraphs [0017] [0037-0038] e.g. [0037-0038] show the calculations of Durations/ID fields of the RTS-request to send and CTS-clear to send) **for transmission of a plurality of frames** (see Figure 5 Element (Data+) CF-Poll e.g. the (Data+) CF-Poll is sent during the Dur1), **wherein said computed duration controls a counter in each of a plurality of devices associated with a wireless multicast infrastructure basic service set network including said mobile terminal** (see Figure 4, Paragraphs [0014] [0018] [0034] [0039] [0042] e.g. both NAV-network allocation vector and ONAV-overlapping network allocation vector are updated with the Duration/ID values; he wireless network of figure 4 illustrates overlapping BSSs including STAs; [0018] lines 9-14 suggests that a BSS is a broadcast/multicast BSS). However, Cervello does not teach that **the frames are a plurality of multicast frames**. White from the same field of endeavor teaches that **the frames are a plurality of multicast frames** (see Abstract, Figure 3, Paragraphs [0008] [0019-0022] [0026-0027] i.e. the paragraphs, specifically paragraph [0022], suggests that a

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multicast-broadcast message is sent after RTS/CTS exchange between an AP and a plurality of STAs; by combining White's multicast-broadcast message transmitting mechanism with Cervello's collision avoidance mechanism, it yields that an AP (as in Cervello's figure 4) is able to transmit multicast message (as in Cervello's figure 5 element (Data+) CF-Poll) to a plurality of STAs during the time duration (as in Cervello's figure 5 element Dur1) as an result). At the time of the invention, it would have been obvious to a person ordinary skill in the art to incorporate multicast-broadcast message transmitting mechanism with Cervello's collision avoidance mechanism. The motivation would have been that it is desired to be able to acknowledging receipt of a multicast message from each recipient, while at the same time avoiding unnecessary use of valuable bandwidth resources (see White, [0005-0007]).

Regarding Claim 24, Cervello further teaches that **the mobile terminal, further wherein a multicast communication stream to said plurality of devices associated with said wireless network is uninterrupted for said computed duration** (see Figure 3, Paragraphs [0017] [0021-0022] [0037-0042] e.g. during the CFP, there is no competition for the medium; the AP polls each STA asking for pending frames to be transmitted).

Regarding Claim 25, Cervello further teaches that **the mobile terminal, further wherein said counter is a network allocation counter** (see Paragraph [0034]).

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Regarding Claim 26, Cervello further teaches that **the mobile terminal, further wherein said counter prevents all but one of said plurality of devices associated with said wireless network from attempting to transmit for a predetermined period of time** (see Paragraphs [0041-0042] i.e. when the STA has non-zero ONAV, the AP will then automatically defer the polling to the future; in another word, the counter ONAV prevents the STA from attempting to transmit for at least the time period that takes the AP to poll the STA again; also paragraph [0041] lines 5-12 teaches that when a STA is in the CFP under PCF, the RTS/CTS exchange is not effective, namely the STA transmits frames regardless the value of the NAV).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

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calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Referring to the PTO Form 892, references are cited to show similar method and system of handling a contention-free communication.

9. Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WEI-PO KAO whose telephone number is (571)270-3128. The examiner can normally be reached on Monday through Friday, 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/

Supervisory Patent Examiner, Art Unit

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/Wei-po Kao/

Examiner, Art Unit 2464